Commentary: Reoperative transapical transcatheter aortic valve implantation for a degenerated biological valve: An approach with caution or a mission impossible?

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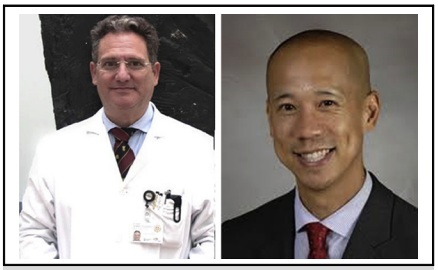

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CENTRAL MESSAGE

Reoperative transapical transcatheter aortic valve implantation for a degenerated biological valve is feasible but should be proceeded with caution, as outcomes could be disastrous.

We read with great interest the case report by Ricciardi and colleagues[1] describing reoperative transapical (TA) transcatheter aortic valve implantation (TAVI) for a degenerated biological valve in a high-risk patient. The authors describe a 73-year-old patient with severe peripheral vascular disease and inadequate iliofemoral vessels. The patient initially underwent a TA TAVR using a 23-mm Edwards SAPIEN XT prosthesis but presented approximately 7 years later with structural valve deterioration. The authors subsequently proceeded with a redo TA TAVR and concluded that this is a viable approach in frail patients with failed transcatheter valves, although further studies are needed.

We should congratulate the authors for the success of their case, but we would like to emphasize that redo TA TAVR should be approached with caution. The authors did provide practical and thoughtful pearls and pitfalls, including a step-by-step structured methodology to safely identify the left ventricular apex using transthoracic echocardiography, and the suggestion to directly enter the cardiac apex from the previous scar, leaving pericardium and previous Teflon pledgets intact. By leaving adhesions and previous Teflon pledgets on the apex, this provides a support structure to facilitate closing the puncture site at the end of the procedure. Looking at the literature, other authors, on the contrary, were removing the Teflon pledgets.[2]

Several points are noteworthy when considering redo TA TAVR, including: (1) the patient's access complexity, (2) the balance between risks and benefits of performing this procedure, and careful informed consent of the patient and his/her family (3) the previous experience of the surgeon and her/his team in similar cases, and (4) the choice of a correct size of the transcatheter valve to prevent premature valve degeneration.

Finally, further investigating this redo TA TAVR with a randomized control trial or an observational study may present ethical and practical issues. These cases are relatively rare and may be difficult to recruit patients for the study. The risk of aortic or left ventricular rupture is tangible and may not justify randomization. This provides a one-way ticket with no return journey, as even if an emergency surgery could be performed after a complicated redo TA TAVI, it will inevitably portend an adverse outcome.

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